

Mariposa, Madera, and Fresno County Weed Management Area
(South Central Sierra Nevada Noxious Weed Alliance)
Integrated Weed Management Plan
Fiscal Years
2000 - 2001
2001 - 2002

The WMA encompasses Mariposa, Madera and Fresno counties. This Integrated Weed Management Plan has been developed for contracting with the CDFA to implement a collaborative integrated weed management work plan for the control of noxious and invasive weeds under the SB 1740 WMA support program.

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Fresno, Madera, and Mariposa County Integrated Weed Management Plan

Introduction

The **Central Sierra Noxious Weed Alliance** (also known as the Mariposa, Madera, and Fresno County Weed Management Area) encompasses the counties of Mariposa, Madera and Fresno. The topography ranges from the San Joaquin valley at an elevation near sea level to the 10,000-foot plus mountain range of the southern central Sierra Nevada. Yosemite National Park comprises 40% of Mariposa County and a portion of northeastern Madera County. Portions of the Stanislaus, Sierra and Sequoia National forests are located in these counties. In addition, much of Kings Canyon National Park falls within Fresno County. Major waterways located in the WMA are the Merced, Kings and San Joaquin Rivers. Federal lands are managed by the Forest Service, Bureau of Land Management or National Park Service. Major highways running north/south within Fresno County are Highways 99 and Interstate 5. Other state highways are 132, 49, and 140 in Mariposa County; 41, 49, 145, 152, and 233 in Madera County; and 33, 41, 63, 168, and 180 in Fresno County. State routes 49, 140, 41, 168, and 180 are especially important as conduits of weed infestations from the San Joaquin Valley into the Sierra Nevada.

The pattern of land ownership in the 3-county area is complex: about half of Mariposa County, one-third of Madera County, and a quarter of Fresno County is public land managed primarily by the Forest Service, Bureau of Land Management, and National Park Service. These areas attract millions of recreational visitors annually. The mountain area is an important source of water and hydroelectric power, with a large number of reservoirs and hydroelectric projects, operated and maintained by Southern California Edison Company or Pacific Gas and Electric Company. The portions of Madera and Fresno Counties within the San Joaquin Valley support a rich agricultural economy, producing tree and vine crops, row crops, forage and irrigated pastures. The cities of Madera and Fresno are large urban population centers. A region of privately owned foothill land is shared by all three counties and is characterized by small rural communities such as Mariposa, Oakhurst, North Fork, Auberry, Prather, Tollhouse, and Dunlap. Livestock ranching/grazing, small farm tree and vine crops, specialty crops such as herbs and Christmas trees, and horses are typical of this area. The west side of Fresno County extends into the Coast Range, and encompasses the towns of Coalinga, Mendota, and Firebaugh.

The natural biological diversity of this area is extremely high, reflecting the diversity of elevations, geology, soils, and topography.

The pattern of weed infestation and spread partially reflects the location of major travelways such as State Highways, county roads, and river corridors. The worst weed at this time is yellow starthistle; it is currently most abundant in the San Joaquin Valley and lower foothill areas of the Sierra Nevada, and in regions of western Fresno County in and around Coalinga. The last few years have seen an accelerated spread of yellow starthistle, especially a movement up into the middle elevations of the Sierra Nevada. A major goal of our 3-county group is to stop the spread of yellow starthistle into the higher elevations of the Sierra Nevada, by focusing on the “leading edge” of outlier yellow starthistle infestations, as defined during a cooperative mapping effort done by Caltrans and California Department of Food and Agriculture (www.cdffa.ca.gov/map_yst). Some A-rated weeds such as rush skeletonweed and spotted knapweed have been kept by CDFA, county agriculture department, and land management staff from spreading widely in the 3-county area. However, increased vigilance will be necessary to ensure they do not become widespread. The higher elevations of the Sierra Nevada are still largely uninfested by State-listed noxious weeds, though locally dense infestations of invasive non-native plants such as Himalayan blackberry, cheat grass, and bull thistle exist.

The Focus

The focus of this Integrated Weed Management Plan (IWMP) is to collaboratively carry out integrated weed management actions specified in the South/Central Sierra Noxious Weed Alliance Strategic Plan. Integrated Weed Management (IWM) is a systems approach to management of undesirable plants. IWM is defined in the Federal Noxious Weed Act as a “system for the planning and implementation of a program, using an interdisciplinary approach, to select a method for containing or controlling undesirable plant species or groups of species using all available methods, including education, prevention, physical or mechanical methods, biological control agents, herbicide methods, cultural methods, and general land

management practices.” It is a multidisciplinary, ecological approach to managing unwanted non-native plant species – weeds.

Background information on the weed problem and our approach to IWM:

Yellow starthistle (YST) is the most prominent noxious weed impacting the 3-county area at this time. Because we cannot realistically treat ALL the infestations of YST in the 3 counties, we have devised a strategy for approaching YST control based on (1) likelihood of preventing spread into surrounding uninfested areas, and (2) demonstrating in a highly visible manner the effectiveness of local cooperative efforts that reach out to private landowners. It is our hope that by selecting certain “pilot” areas to apply the principles of Integrated Weed Management (including cooperative spray programs with private landowners), we can demonstrate a method of approaching the task that can easily be adopted in other areas of the three counties. We have selected three “pilot” areas to implement cooperative spray programs similar to the Tehachapi RCD’s program. These areas were chosen to complement other ongoing and proposed control efforts, for example, if the Forest Service and the county road department are already carrying out YST control in a given area, the adjacent landowners in that particular area will be invited to participate in a coordinated control program.

The objectives, actions, and tasks outlined under Section I, “Control” for management of specific noxious weed species are primarily focused on control, but in some cases the tasks of inventory and mapping are inextricable from the task of control, so we have included mapping and inventory under this section rather than under Section III, where stand-alone mapping and inventory efforts are described.

When selecting a method of control, we will use information from the California Natural Diversity Database, California Native Plant Society, and the Calflora database to determine whether or not there are rare and endangered species that require special mitigation measures. We will use an environmental checklist similar to that used by California Department of Forestry and Fire Protection to ensure compliance with the California Environmental Quality Act. For spray projects on federal lands, the appropriate environmental analysis under the National Environmental Policy Act (NEPA) will be conducted if not already completed.

I. Control

MARIPOSA COUNTY

INTRODUCTION: This section summarizes existing, ongoing noxious weed control efforts in Mariposa County that will be augmented by SB 1740 funded work: Mariposa County conducted an inventory for yellow starthistle along Mariposa County roads outside of federal lands, and created a map in 1999. This map can be used when planning control efforts. The National Park Service mapped all yellow starthistle locations within Yosemite National Park in 2000. The Forest Service will complete an inventory of all county roads and major Forest travelways in 2001 for yellow starthistle and other weeds.

- Caltrans District 10 sprays about 390 acres of yellow starthistle with Transline along the following State routes within Mariposa County and will continue to do so in 2001:

ROUTE:	POSTMILES	ACRES
Highway 132 (near Coulterville)	0.0 – 18.7	72.5
Highway 49	0.0 – 48.8	189.3
Highway 140	0.0 – 34.0	128.7

- Mariposa County Road Department sprays yellow starthistle with Transline along selected county roads and will continue to do so in 2001 (\$20,000 will be spent on this program)
- The National Park Service and US Forest Service conduct manual and mechanical (weed whacking) of yellow starthistle in the Merced River Canyon in the area between Briceberg and El Portal, the upper limit of yellow starthistle along Highway 140, and will continue to do so in 2001. We have also

sponsored several public meetings to educate people about yellow starthistle, and several volunteer weed-pulling days during the past few summers. The National Park Service will be carrying out an integrated program for the control of about six invasive plants in the Foresta region, which represents the uppermost limit of yellow starthistle in the Merced River drainage. A National Environmental Policy Act (NEPA) analysis will be jointly conducted by the Forest Service, Park Service, and possibly the Bureau of Land Management for the Merced River drainage. Public scoping will occur this year, and the NEPA decision is expected to be completed such that Transline could be sprayed in 2001.

PROJECT 1: Integrated weed management of yellow starthistle (*Centaurea solstitialis*) in Mariposa County

Several methods of control have been established for controlling yellow starthistle (YST) including: burning, mowing, mechanical removal, chemical methods, and biological control. Mowing and weed-whacking are viable YST control options under certain circumstances and will be utilized where isolated populations occur and in areas where rare and endangered species are present. YST continues to germinate over the entire summer thus staggering its population's life stage. This will be considered when choosing a treatment method, since the feasibility of returning to a given infestation repeatedly in a field season needs to be factored in. For example, if one treatment with Transline plus one follow-up treatment with hand or mechanical methods is more practical than using glyphosate or weed-whacking, which may take 4 or 5 visits to prevent seed set, then this chemical would probably be the treatment of choice. All areas to be treated will be visited multiple times in one season if necessary. Our strategy for selecting areas suitable for spraying is also based on the presence of sensitive environmental features such as water and wetlands, and threatened, endangered, and sensitive species of plants and animals.

Objective 1.0 Yellow starthistle control on private land in Mariposa County:

Mariposa County will conduct a yellow starthistle (YST) local eradication/control program with an emphasis on roadside populations and private landowner outreach. Mariposa County recently sponsored a YST mapping effort, which provides a good starting place for selecting areas to treat. A 50% cost share program with the WMA and private landowners will be developed as an outreach effort to involve private land holdings for the first year. An aggressive program to develop county partnerships will be undertaken in years 2-3. This three-way partnership could increase sprayed acres by 33% over the 2001 season. (e.g., Mariposa County might put in \$15,000 per year in 2002 and 2003). Collaborative partnerships with Bureau of Land Management, county road departments, Caltrans, PG&E, US Forest Service and National Park Service will be developed to address roadside infestations in a coordinated manner. An integrated weed management systems approach will be utilized in order to achieve a reduction in YST cover by 30% the first year (2001), and 90-100 % by the third year (2003).

Action 1.1: Yellow Starthistle spraying in Mariposa County

Cooperative Extension staff will focus on two areas of the county infested with YST that meet specific criteria based on ongoing YST control projects with Caltrans and the Mariposa County Road Department: The area south of Mariposa and north of Raymond consisting of East Westfall Road (sprayed by Mariposa County in 2000) and Ben Hur Road, and (2) the Coulterville/Greeley Hill area where Mariposa County road department staff have been conducting YST control since 1998 and Caltrans sprays YST with Transline along Highway 132. Criteria for inclusion in the cost share project will be: a three-year commitment by the landowner, lands must be in one of the pilot areas, and the landowner must agree to allow staff to monitor control efforts. Contracted part time staff will be responsible for soliciting participation of private landowners, using mass media, personal contacts, and referrals.

Choice of Treatment Method and Rationale:

The primary treatment in the two pilot areas will be hand-directed spray applications with Transline at an anticipated rate of ½ pint active ingredient per acre (for a solid infestation). Where an area is heavily covered the treatment will approach a broadcast treatment. As the infestation becomes more scattered, the treatment will approach a spot treatment. Transline was chosen because it is the herbicide with the least effects on non-target plants and it is of relatively high safety to animals. An herbicide treatment was

chosen as the least costly and most effective option due to the heavy infestations in these areas and because the areas are already disturbed.

To increase the number of treated acres landowners who have the capability to treat their own property will be offered a 50% cost share to purchase Transline herbicide. These sites will be monitored in the same manner as the other treatment sites and will be subject to the same criteria.

Performance Evaluation 1.1:

Success of the treatment will be evaluated by sampling the YST control sites. Sampling method will be plant density taken in four quarter-meter plots randomly selected within a 1/10th acre site (10 by 50 feet). Sampling will be done at 6 months and 1 year following treatment with herbicide and compared to baseline data collected prior to treatment. Photos will also be taken of each project site on 3 occasions: just before treatment, 6 months after treatment and 1 year after treatment at the time of cover sampling. A record will be kept of the different agencies involved, hours spent on the project by each agency or group, equipment donated, and other project contributions.

Tasks for Action 1.1. Yellow Starthistle cooperative spray 2 pilot areas in Mariposa County 2001

TASK	DATE	COST	IN KIND - COST
Task 1 Train Contract Personnel	03/01/01 – 03/31/01		UCCE Farm Advisor including overhead and vehicle 40 hours = \$2000 (37.50/hr plus benefits)
Task 2 CE staff will conduct landowner outreach.	03/15/01 – 4/15/01	\$800 (80 hours @ \$10/hr) \$300 (500 miles) TOTAL: \$1,100	
Task 3 Contract staff will conduct pre-treatment survey using density counts and photo sites.	3/15/01 – 4/15/01	\$300 mileage (500 miles) \$800 contractors time (80 hours @\$10/hr) TOTAL: \$1,100	
Task 4a Purchase chemical	3/15/01 – 4/30/01	Spray contractor purchases 20 gallons of Transline at \$3,000. WMA share = \$1,500	Landowners' share \$1,500
Task 4b Contractors will treat selected sites.	3/15/01 – 4/30/01*	Spray approximately 200 acres @ \$100/sprayed acre (\$50.00/sprayed acres paid by WMA). WMA share: \$10,000	Landowners' share \$10,000
Task 5 Contract staff will survey treated areas following treatment at 6 months and 1 year (2002).	10/01/01 – 10/15/01	\$800 (80 hours @ \$10/hr) \$300 (500 miles) TOTAL: \$1,100	
TOTALS		\$14,800	\$13,500

** Target spray dates are dependent on weather and environmental conditions and may vary considerably depending on elevation and location)*

Action 1.2: Mechanical control of yellow starthistle in Mariposa County

In areas of the two pilot areas where environmental concerns preclude the use of herbicides, hand pulling or mechanical treatments will be done, either by the landowner or by the Mount Bullion crew of the California Department of Forestry and Fire Protection.

Choice of Treatment Method and Rationale:

In areas within 100 feet of flowing water or within the known occupied habitat of rare and endangered plants or animals, non-chemical methods are less risky to these sensitive resources.

Evaluation 1.2: Same as Evaluation 1

Tasks for Action 1.2	Date	Cost	In-kind
Tasks 1-3 done under Action 1.1			
Task 4 Conduct weed-whacking or mowing	When plants are at 2-5% bloom, probably 6/1/01 to 7/01/01		CDF Crew (15 people) @ \$450/day (actual in-kind will be recorded for annual report)
Task 5 Conduct follow up treatment to get resprouts or newly germinated plants	July 2001		UC Cooperative Extension agents' time and mileage (actual in-kind will be recorded for annual report)
Task 6 Monitor (Same as Action 1.1, Task 5)			UCCE staff
Total		None requested under SB 1740	Will be reported in annual report

PROJECT 2: Iberian Starthistle (*Centaurea iberica*) survey and eradication in Mariposa County

A new infestation of Iberian starthistle, an "A" rated pest, was found in Mariposa County recently. The location was in the watershed of West Piney Creek near Coulterville in a rural residential neighborhood extending down the creek to Lake McClure.

Objective 2.0:

Action 2.1 Iberian Starthistle detection and eradication will be conducted on public and private land in the Piney Creek drainage of Mariposa County. Iberian Starthistle is a biennial noxious weed of limited distribution in the state and presently under eradication. This weed is a serious rangeland and environmental pest capable of encroaching throughout the lower watershed as it moves downstream by water, animals, wind and man. The need to delimit and eradicate this weed is critical because of the potential for rapid spread. This project will be led by CDFA Associate Biologists with assistance from the Mariposa County Department of Agriculture and U.C Ag Extension Farm advisor. A Pesticide Contract Operator (PCO) contractor will be hired, trained by the Fresno CDFA Associate Biologist and supervised by the Farm advisor. Their staff will do a landowner search and make contact to obtain permission to enter the property. They will then survey, map with GPS and treat the plants located. Treatment and survey will be repeated on a 3 to 4 week schedule in April and May 2001. Herbicides of choice will be Transline for the first and second treatment, and Roundup Pro for the third treatment.

Performance Evaluation 2.1:

Success of the treatment will be evaluated by sampling the Iberian starthistle control site (measure percent cover using a line transect and the point-intercept method for 4 replications) 6 months and 1 year following treatment with herbicide and comparing it to baseline data collected prior to treatment. Photos

will also be taken of each project site on 3 occasions: just before treatment, 6 months after treatment, and 1 year after treatment at the time of cover sampling.

A list of the different agencies involved, hours spent on the project, equipment donated, and other project contributions will be developed.

Tasks for Action 2.1. Iberian starthistle control in Piney Creek area of Mariposa County

TASK	DATE	COST	IN KIND - COST
Task 1 Hire and train temporary staff on a Personal Services contract	04/01/01 – 04/03/01		UCCE Farm Advisor 40 hours = \$2,000 CDFA Biologist 20 hours - \$1,000 TOTAL: \$3,000
Task 2 Contracted staff will conduct a property owner search in the county assessors office before going to the field to make owner contact to obtain permission for survey and treatment.	04/04/01 – 04/06/01	\$240 (24 hours @10/hr)	
Task 3 Contact property owners in project area	04/09/01 – 04/13/01	\$ 400 (40 hours @ 10/hr) \$300 mileage (500 miles) TOTAL: \$700.	
Task 4 Survey and map project area	4/14/01 – 4/18/01	\$ 400 (40 hours @ 10/hr) \$300 mileage (500 miles) TOTAL: \$700.	
Task 5 Contractor purchases materials	4/19/01	1 gal Transline, 1 gal glyphosate, plus blue dye and surfactant TOTAL: \$450.	
Task 6 Contract with a Pest Control Operator to treat Iberian starthistle 3 times in April and May	4/19/01 – 5/31/01	\$70/hour for 2 persons, equipment, and materials X 86 hours for 3 applications (3 miles of terrain on foot = 0.5 miles per day) TOTAL: \$6,020	
Task 7 CDFA staff will survey treated areas following treatment at 6 months and 1 year (2002).	October 2001, April 2002		\$500.00
TOTALS		\$8,110	\$3,500

MADERA COUNTY

PROJECT 3: Control of yellow starthistle along county roads in Madera County

Roadside infestations of yellow starthistle can spread onto adjacent public and private lands, since they are a seed source for further infestations. The control of roadside infestations is of great importance to help stem the further spread of this weed, especially in areas where it is just getting started, i.e. the

foothills. The Madera county Road Department currently controls roadside weeds by use of Roundup herbicide but only in a narrow band of 12 feet along the roadside.

Objective 3.0:

To control yellow starthistle infestations along County maintained roads in Madera County, with an emphasis on treating outlier infestations to stem the spread eastward into new areas.

Action 3.1

The Madera County road department will supply the equipment and labor to apply Transline herbicide to the rights of way of county maintained roads (12 feet from edge of pavement) to control yellow starthistle in the public right of way. Maps created by the California Department of Agriculture in 1999 and 2000 for the Yellow starthistle mapping project (www.cdfa.ca.gov/map_yst) will be used to decide where to spray.

Choice of Treatment Method and Rationale:

Total bare ground is not desired on all of the right of way, thus the herbicide chosen is Transline, which will allow control of yellow starthistle and other broadleaf weeds while leaving behind grasses and many native plants.

Performance Evaluation 3.1:

Success of the treatment will be evaluated by sampling the YST control sites (measure percent cover using a line transect and the point-intercept method for 4 replications) 6 months and 1 year following treatment with herbicide and comparing it to baseline data collected prior to treatment. Photos will also be taken of each project site on 3 occasions: just before treatment, 6 months after treatment, and 1 year after treatment at the time of cover sampling.

A list of the different agencies involved, hours spent on the project, equipment donated, and other project contributions will be developed.

A record will be kept of the miles of road treated.

Tasks for Action 3.1. Control of yellow starthistle along county roads in Madera County

TASK	DATE	COST	IN KIND - COST
Task 1 Determine area to be sprayed	3/15/01 – 4/01/01	(see mapping and inventory, section III)	
Task 2 Purchase chemical	4/1/01 – 4/10/01	1536 oz of Transline herbicide @2.49/oz = \$3,824.64 2 gallons of spreader @ 10.00/gal = \$20.00 TOTAL: \$3,844.64	
Task 3 Rent a trailer-mounted sprayer for 2 months	04/10/01	\$1,200	
Task 4 Spray roadside infestations of yellow starthistle	04/10/01 – 06/30/01		Road Dept. Spray Crew 220 @ 15.00/hour =
Task 5 Evaluate sprayed areas for efficacy	6/30/01 – 12/01/01?		Madera County Staff (Ag Inspector III - 40 hours @ \$28/hour = \$1,120

Task 6 Compile results and photos into a report	4/1/01 – 3/1/02		Madera County Staff (Ag Inspector III - 20 hours @ \$28/hour = \$560
TOTALS		\$5,044.64	\$4,980

PROJECT 4. Integrated Weed Management of Arundo in the San Joaquin River drainage (Millerton Lake area), Madera County

The uppermost extent of the noxious weed *Arundo donax* currently documented in the San Joaquin River drainage is a large patch extending up Dumna Creek, an ephemeral tributary to Millerton Lake. *Arundo* is a large grass resembling bamboo that chokes waterways and riparian zones, to the exclusion of native vegetation, and transpires enormous amounts of water. To control this pest, the upper reaches of a drainage must be treated first and successive efforts made moving downstream to eradicate it. Therefore, eradication efforts must begin at Millerton Lake and extend to the downstream portions below Friant Dam in order to be successful. This initial phase will concentrate on the reach of river stretching from Millerton Lake to the Highway 41 bridge, approximately 11 river miles.

Objective 4.0: Use GPS to survey and map the distribution of *Arundo* within Millerton Lake State Recreation Area (SRA) and publicly owned land in the San Joaquin River Corridor to the Highway 41 bridge, and begin eradication efforts from the upper end, moving down the river corridor.

Action 4.1: State Parks staff and cooperators (River Parkway Trust, Bureau of Reclamation) will survey, map, and initiate eradication efforts for *Arundo* in the San Joaquin River corridor from Millerton Lake to the Highway 41 bridge.

Choice of control methods and rationale:

Current protocols call for removing tall woody stems after the end of the rainy season, spreading them out on the ground in a thin layer, to desiccate completely to prevent resprouting, and then waiting until the stubble resprouts to treat it with glyphosate. This minimizes the amount of glyphosate needed for control and maximizes its effectiveness.

Performance Evaluation 4.1: A computerized GIS map of the distribution of *Arundo* will be produced, and eradication efforts documented and evaluated for effectiveness using a linked computer database, managed by the Bureau of Reclamation. Success of the treatment will be evaluated by sampling the *Arundo* control site (measure percent cover using a line transect and the point-intercept method for 4 replications) 6 months and 1 year following treatment with herbicide and comparing it to baseline data collected prior to treatment. Photos will also be taken of each project site on 3 occasions: just before treatment, 6 months after treatment, and 1 year after treatment at the time of cover sampling.

A list of the different agencies involved, hours spent on the project, equipment donated, and other project contributions will be developed.

Tasks for Action 4.1. Mapping and Control of Arundo in the vicinity of Millerton Lake, Madera County

TASK	DATE	COST	IN KIND - COST
1 Hire and train seasonal employee to use GPS unit to survey public lands from Millerton Lake to Hwy 41 bridge	4/1/01 – 5/15/01	240 hours seasonal staff @ \$12/hour = \$2,880	GPS unit = \$4,000.00 Staff time: 40 hours at \$35.00/hour = \$1,400

2 Enter information into computer, produce map for use in control	5/15/01	40 hours seasonal staff @12.00/hour = \$480.00	Cooperative effort with Bureau of Reclamation GIS specialist 20 hours @35.00/hour = \$700.00 (plus use of computer system)
3 Conduct pre-treatment monitoring	Begin 5/16/01	20 hours seasonal staff @ 12.00 = \$240.00	
4 Contract for removal of Arundo thickets and subsequent spraying with glyphosate 4-6 weeks later	5/16/01 – 6/30/01	\$1,400	
5 Conduct 6 month post-treatment monitoring	By 12/30/01		20 hours time for an Environmental Services intern @ 15.00/hour = \$300.00
6 Conduct 12 month post-treatment monitoring	6/30/02		20 hours time for an Environmental Services intern @ 15.00/hour = \$300.00
TOTALS		\$5,000	\$6,700

FRESNO COUNTY

PROJECT 5. Integrated Weed Management of yellow starthistle and Italian thistle in the Prather-Auberry-Tollhouse area of eastern Fresno County

This area of eastern Fresno County represents the leading edge of yellow starthistle expansion in the foothill area. There are a few infestations of Italian thistle and tocalote in the same area. The area (about 6,000 acres total, not all infested) is characterized by intermixed land ownership, both private land and National Forest System lands. The Forest Service has been spraying on National Forest System lands with glyphosate since 1999, and has been doing manual and mechanical control since 1998. The Forest Service will continue this work in 2001. Fresno County will treat yellow starthistle in the county road right-of-way in Spring 2001. Two public education meetings have been held for this project, and one public field trip (1999).

Objective 5.0: Detection and eradication of yellow starthistle at the eastern leading edge of its expansion in the foothills of Fresno County. This is a beginning point in the control of YST east of known populations south and west of Tollhouse Road

Action 5.1

Members of the Sierra Resource Conservation District and other volunteers will locate the infestations of YST on private lands within the PAT project area (in the vicinity of the Beal Fuelbreak where the Forest Service is controlling YST)

Choice of control methods and rationale:

The primary treatment will be hand-directed spray applications with Transline at an anticipated rate of ½ pint Active Ingredient per acre (for a solid infestation). Where an area is heavily covered the treatment will approach a broadcast treatment. As the infestation becomes more scattered, the treatment will approach a spot treatment. Transline was chosen because it is the herbicide with the least effects on non-target plants and it is of relatively high safety to animals. An herbicide treatment was chosen as the

least costly and most effective option due to the heavy infestations in these areas and because the areas are already disturbed.

There are two rare and endangered plant species in the area: Carpenteria (*Carpenteria californica*) and golden lupine (*Lupinus citrinus* var. *citrinus*). Near populations of these plants, and in areas near water or where habitat for rare amphibians may be present, hand-pulling or mechanical cutting will be used.

Performance Evaluation 5.1:

Success of the treatment will be evaluated by sampling the YST control site (measure percent cover using a line transect and the point-intercept method for 4 replications) 6 months and 1 year following treatment with herbicide and comparing it to baseline data collected prior to treatment. Photos will also be taken of each project site on 3 occasions: just before treatment, 6 months after treatment, and 1 year after treatment at the time of cover sampling.

A list of the different agencies involved, hours spent on the project, equipment donated, and other project contributions will be developed.

Tasks for Action 5.1. Yellow starthistle and Italian thistle control in Prather-Auberry-Tollhouse Area of Eastern Fresno County

TASK	DATE	COST	IN KIND - COST
Task 1 Conduct research on land ownership, contact landowners	3/01/01 – 3/15/01		Will add up to more than \$6,000 once time spent by RCD, SCE, and USFS personnel, vehicle usage, and mileage. All the preparatory work and data management will be in-kind.
Task 2 Survey and map weeds to determine where to spray	4/01/01 – 05/15/01		
Task 3 Conduct pre-treatment monitoring	By 5/15/01		
Task 4 Secure spray contractor	By 05/15/01		
Task 5 Spray yellow starthistle	<i>Optimal spray dates (before 6/30/01)</i>	Contractor approximately 60 acres @ \$100/acre = \$6,000	
Task 6 Follow-up control and evaluations	By 12/31/2001		
TOTALS		\$6,000	Will include total in annual report.

PROJECT 6. Integrated Weed Management of rush skeletonweed and purple starthistle in Fresno County

Rush skeletonweed is a perennial weed recently introduced into parts of Fresno and Fresno County. Skeletonweed is of limited distribution and is an A-rated weed. It is currently found in the southeastern portion of Fresno City and southeast into urban and agricultural areas. It can be a serious agricultural pest through the reduction of crop yield and the choking of harvesting machinery. Because of its currently limited distribution and its ability to spread rapidly, delimitation surveys and prompt treatment to eradicate this weed are critical. Each skeletonweed plant can produce up to 15,000 seeds, which are carried by wind, vehicles, clothing, and animals. Once established, skeletonweed produces a very extensive and deep root system. Control methods for rush skeletonweed include chemical spraying and multiple disking. Hand pulling is not an option because of the deep root.

On June 13, 2000 purple starthistle was detected in a pasture setting in eastern Fresno County. One large plant was growing along the bank of an irrigation canal. There were 3-4 small plants within 20 feet of the large plant. The landowner states that 10 acres were infested with purple starthistle, but the property was disced. Total infestation size is unknown at this time. Control methods for purple starthistle include mowing, hand removal, disking, and chemical spraying.

Objective 6.1 Rush skeletonweed mapping and control:

Rush skeletonweed detection and eradication will be conducted on private and public lands. The Fresno County Department of Agriculture will lead this project. County Biologists will train and supervise a seasonal aide in skeletonweed detection and control. The seasonal will survey the known infested sites and map with GPS. Also, the seasonal aide will survey the remainder of the eastern half of Fresno County for skeletonweed, mapping with GPS and treating as needed. Survey and spray work will be under the supervision of a County Biologist.

Action 6.1

Fresno County seasonal staff will conduct a complete survey and mapping of known infestations of skeletonweed in the project area (1200 sites/900 acres). Also, seasonal staff will survey with GPS the entire project area. For any new infestations, the property owner will be contacted and permission granted to spray the site. Survey rate will be approximately 1 square mile per week (640 acres). Survey crews will walk vineyards, orchards, open land, pastures, and home sites. The goal is to survey a minimum of 9,600 acres (15 square miles).

Choice of control methods and rationale:

Materials to be used will be Roundup Pro and Transline. Disking is an option for larger fields. However, disking must be monitored to insure that multiple discings are done throughout the year and that plant parts are cleaned from equipment before it is moved.

Performance Evaluation 6.1:

Success of the treatment will be evaluated by sampling the rush skeletonweed control site (measure percent cover using a line transect and the point-intercept method for 4 replications) 6 months and 1 year following treatment with herbicide and comparing it to baseline data collected prior to treatment. Photos will also be taken of each project site on 3 occasions: just before treatment, 6 months after treatment, and 1 year after treatment at the time of cover sampling.

A list of the different agencies involved, hours spent on the project, equipment donated, and other project contributions will be developed.

A computerized GIS map of the project site will be created with the locations of detected rush skeletonweed plants/populations and treatment sites. There will also be a record of previously detected locations that have been sprayed and considered controlled.

Tasks for Action 6.1. Mapping and inventory of rush skeletonweed Fresno County

TASK	DATE	COST	IN KIND - COST
Task 1 Hire 2 seasonal staff	04/02/01	FY 00/01 Seasonal Ag Aide (32 days X 16 hours) 512 hours @ \$10/hour (wages include \$9.17 salary and \$0.83 benefits) = \$5,120.00	FY 00/01 Staff hours – Ag Standards/Specialist III (based on 10 days/month) 240 hours X \$25.30/hour = \$6,072.00 Ag III Vehicle Usage - \$2.93/hour X 240 hours = \$703.20 Ag seasonal 240 hours X
Task 2 Train 2 seasonal staff	04/02/01 – 04/03/01		
Task 3 Survey known infestation area with GPS	04/03/01 – 05/01/01		
Task 4a Survey project area with GPS	05/01/01 – 6/30/01		

Task 5a Survey and evaluate treated sites	05/01/01 – 6/30/01		\$10.00/hour = \$2,400
Task 4b Survey project area with GPS	07/01/01 – 8/31/01	FY 01-02 Seasonal Ag Aide (36 days X 16 hours) 576 hours @ \$10/hour (wages include \$9.17 salary and \$0.83 benefits) = \$5,760.00	Seasonal Vehicle Usage 240 hours X \$2.93 = \$703.20
Task 5b Survey and evaluate treated sites	07/01/01 – 8/31/01		6,500 Vehicle miles X \$0.19 mile = 1,235
Task 6 Compile data and prepare report	07/01/01 – 8/31/01		FY 01-02 In-kind will be shown in end-of year report
TOTALS		\$10,880.00	\$11,113.40 (FY 00-01 only)

Action 6.1A. Treat rush skeletonweed

Seasonal staff will spray all known infestations of rush skeletonweed within the project area.

Performance Evaluation 6.1A:

Success of the treatment will be evaluated by sampling the rush skeletonweed control site (measure percent cover using a line transect and the point-intercept method for 4 replications) 6 months and 1 year following treatment with herbicide and comparing it to baseline data collected prior to treatment. Photos will also be taken of each project site on 3 occasions: just before treatment, 6 months after treatment, and 1 year after treatment at the time of cover sampling.

Tasks for Action 6.1A. Control of rush skeletonweed Fresno County

TASK	DATE	COST	IN KIND - COST
Task 1 Purchase chemicals	04/02/01	\$36.00 Roundup-Pro 1 gal \$160.00 Transline 64 oz (\$2.49/oz) \$45.44 Blue dye 32 oz (\$1.42/oz) \$9.16 spreader 1 gal (\$9.16/gal) = \$250.60	See Action 6.1 above
Task 2 Treat infested sites	04/16/01 – 6/30/01	64 X \$10/hour \$640.00	
Task 3 Evaluate and document treatments	05/01/01 – 06/30/01	64 X \$10/hour \$640.00	
		Total for FY 00-01 = 1,530.60	
Task 4 Treat infested sites	07/01/01 – 08/31/01	64 X \$10/hour \$640.00	
Task 5 Evaluate and document treatments	07/01/01 – 08/31/01	64 X \$10/hour \$640.00	
		Total for FY 01-02 = 1,280.00	

TOTALS		\$2,810.60	See Action 6.1 above
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Objective 6.2 Purple starthistle mapping and control:

To survey and map purple starthistle with GPS 20 square miles (12,800 acres) encircling the initial site. Project area survey sites will include downstream from canal and southeastward from original site. Also, to survey any pastures or rangeland sites where owner's cattle have been moved.

Action 6.2

Two Fresno County Department of Agriculture seasonal staff will conduct a complete survey and GPS mapping of a 20 square mile area around the initial purple starthistle detection site. Individual plants will be hand-pulled, bagged, and disposed of in an appropriate manner. Larger populations of purple starthistle will be sprayed with Roundup-Pro herbicide.

Performance Evaluation 6.2:

Success of the treatment will be evaluated by sampling the purple starthistle control site (measure percent cover using a line transect and the point-intercept method for 4 replications) 6 months and 1 year following treatment with herbicide and comparing it to baseline data collected prior to treatment. Photos will also be taken of each project site on 3 occasions: just before treatment, 6 months after treatment, and 1 year after treatment at the time of cover sampling.

A list of the different agencies involved, hours spent on the project, equipment donated, and other project contributions will be developed.

A computerized map of the project area will be created with the locations of detected purple starthistle plants/populations.

Tasks for Action 6.2. Integrated weed management of purple starthistle in Fresno County

TASK	DATE	COST	IN KIND - COST
Task 1 Survey known infestation sites, treat and hand pull as needed	05/14/01 – 5/15/01	400 hours of seasonal agricultural aide X \$10.00/hour = \$4,000	Commute miles \$0.19/mile X 480 miles = \$91.20
Task 2 Survey entire project area with GPS, treat and hand pull as needed	05/14/01 – 6/15/01		Vehicle Use: 200 hours X \$2.93/hour = \$586.00 Indirect costs: 15% of 4,000 = \$600.00
Task 3 Office GPS downloading and mapping	05/14/01 – 6/15/01		
TOTALS		\$4,000.00	\$1,277.00

II. Education

Education is one of our best tools in preventing the further spread of noxious and invasive species, locating previously unknown and remote weed populations, and in rallying support for controlling and eradicating infested sites. Raising public awareness and understanding requires a well-planned, well-funded, and long-term program. The WMA has a camera-ready brochure entitled *Top Ten Noxious Weeds and Invasive Nonnative Plants of Mariposa, Madera, and Fresno Counties*.

Project 7.0: Maintain an active and coordinated education and awareness program across the 3-county area

The WMA is already producing foldout brochures featuring the 10 worst weeds of the 3 counties, information on Integrated Weed Management, and key contacts for information. We plan to distribute

brochures at the Fresno, Madera, and Mariposa County Fairs, Public Libraries, Agricultural Commissioners Office, Master Gardener's Office, Land Management Agency offices, at local events and area nurseries. Under AB 1168, we committed tallying the number of brochures distributed. The number of incoming phone-calls due to the contact phone number on the brochure will also be tallied. The WMA is also publishing a booklet with more detailed technical information on our top weeds. The actions listed below are those in addition to activities shown in our AB 1168 proposal.

Objective 7.1: Use the landowner contact opportunity provided when California Department of Forestry and Fire Protection (CDF) conducts fire-safety inspections (LE-38 inspections).

Action 7.1: CDF staff will distribute brochures on weeds in the WMA when making routine fire-safety inspections

Project Evaluation 7.1: The number of brochures distributed, and the number of weed infestations detected as a result of landowner outreach will be recorded.

Tasks for Action 7.1	Date	In Kind Cost
Task 1: Provide brochures to CDF (Mariposa, Madera, Merced and Fresno/Kings Ranger Units	March 2001	\$7,500
Task 2: CDF fire personnel make landowner contacts during "LE-38" inspections	Spring and Summer	
Task 3: Record number of brochures distributed and number of new weed infestations detected as a result	Summer and Fall 2001	
Total		\$7,500

Objective 7.2: Hold weed identification field days for the general public in each county. These field-days will bring in outside experts, as well as allowing local experts to disseminate information on control of the top weeds in the county. The field-days will also showcase examples of all treatment methods used in the pilot projects with discussions of relative success and costs.

Action 7.2: Three workshops will be held by the WMA.

Project Evaluation 7.2: The name, number and affiliation of each speaker and attendee will be recorded. The field-day agenda will be included in the annual report.

Tasks for Action 7.2	Date	Cost – IN KIND
Task 1: Choose project coordinator for each county	03/14/01	\$1,000
Task 3: Choose dates, projects to display, and speakers	03/14/01	
Task 4: Make signs, schedule vehicles, advertise	04/30/01	\$2,000
Task 5: Hold event #1	May	\$1,000
Task 6: Hold event #2	June	\$1,000
Task 7: Hold event #3	July	\$1,000
Task 7: Develop report	10/01/01	\$ 600.
Total		\$6,600

Objective 3: One member of the WMA Steering Committee will be designated to continually provide information to Calif. Dept. of Food and Agriculture to keep the Fresno, Madera, and Mariposa WMA website current. Information about upcoming meetings, workshops, and events will be posted online.

Action 3: Regularly supply CDFA with current WMA information.

Project Evaluation 3: Log hours spent and items supplied to CDFA. Notify WMA members when new information has been posted to website.

Tasks for Action 7.3	Date	Cost
Task 1: Send updated information to CDFA	Monthly	In kind
Total		\$ 1,000 In kind

III. Mapping and Inventory

The Mariposa, Madera, and Fresno County WMA believes that a strategic and long-term approach to noxious and invasive weed control is based on a solid knowledge of the county-wide distribution of the weeds. This includes low-resolution mapping where weeds are common and higher resolution mapping in zones where weeds are rarer. Knowing the location of the priority weed species through mapping and inventorying will allow for the appropriate application of control strategies. Mapping where weeds are not found is, most of the time, just as important as recording where they are found. It is important to always classify non-surveyed lands as “non-surveyed” rather than “uninfested”.

The actions described below are only one part of the new 3-county Weed Geographic Information System Project. This project is part of a California-wide Local Weed GIS program coordinated by CDFA. All data will be in accordance with the mapping guidelines outlined by that program. Data for the WMA GIS Project will come from many sources in addition to the Weed Warriors. They will focus on areas prioritized by the WMA which do not have survey data already or areas that need to be re-surveyed. Survey efforts are already well underway in the Sierra National Forest and Yosemite National Park.

MARIPOSA COUNTY

PROJECT 8: Noxious weed mapping in Mariposa County

There are many populations of noxious weeds in Mariposa County, including yellow starthistle, tocalote, Klamathweed, Iberian starthistle, Italian thistle, spotted knapweed, diffuse knapweed, and It is imperative to establish benchmark data on noxious weeds in the county. This information will allow the development of an effective prevention and control effort by delineating the range of these weeds. Benchmark data allows the evaluation of progress towards control and of control methods. For this project, a contractor will be hired to drive the county and state roads in Mariposa County and use GPS technology to map infestations of selected weed species. A partial mapping has been done on YST in the county, but further work is needed for more complete data. Additionally, the mapping of tocalote, klamathweed, Iberian thistle, Italian thistle, spotted knapweed, diffuse knapweed and medusahead must be included.

Objective 8.1: To survey county and state roads and map the locations of yellow starthistle, tocalote, klamathweed, Iberian thistle, Italian thistle, spotted knapweed, diffuse knapweed, and medusahead.

Action 8.1: Hire a person on a personal services contract to conduct a roadside survey for the noxious weeds.

Evaluation 8.1: A log of hours and work conducted will be recorded daily. A map will be developed delineating the ranges of these weeds and the extent of infestation. In year 3 of this project the surveying and mapping will be repeated.

In addition, Mariposa county will develop or improve collaborative partnerships to manage and control weed infestations in Mariposa County by working with the county road department, Caltrans, the National Park Service, BLM, to manage and control weed infestations. A workshop will be held in Fall 2001 to view maps created under objective 9.1, and to plan for increased coordinated control efforts beginning in 2001. The participants and meeting notes from the workshop will be recorded and included in the WMA annual report.

Tasks for Action 8.1. Mapping and Inventory in Mariposa County

Tasks for Action 8.1	Date	Cost	In kind Cost
Task 1: Advertise for mapping contractor in local newspaper	04/01/01		\$150 (UCCE)
Task 2: Conduct interviews and select person	04/15/01		\$400 (UCCE)
Task 3A: Conduct road survey of highways 49, 132, 140, and county roads, approx. 750 miles	06/01/01 – 06/30/01	\$1,600.00 (160 hours @ \$10/hour) \$225.00 (mileage for 375 miles) TOTAL: \$1,825	
Task 3B: Conduct road survey of highways 49, 132, 140, and county roads, approx. 750 miles	07/01/01 - 08/01/01	\$800.00 (80 hours @ \$10/hour) \$225.00 (mileage for 375 miles) TOTAL: \$1,025	
Task 4: Download data into computer and print maps, mount on foam board	04/30/01	\$500 (3 maps each for each weed species plus 3 composite maps)	\$200 (UCCE)
Total		\$3,350.00	<i>At least \$750.00 (actual amount spent will be provided in the annual report)</i>

MADERA COUNTY

PROJECT 9. Inventory and mapping of yellow starthistle, klamathweed, and other weeds along county roads in Madera County

There are infestations of yellow starthistle and klamathweed adjacent to county roads in many parts of Madera County. In order to form a strategy for controlling these noxious weeds, it is imperative that their locations and abundance be determined. These two weed species and others cause economic and cultural problems for both the public and private sectors.

Objective 9.0:

Madera County Department of Agriculture staff will survey and map with GPS all roadside infestations of yellow starthistle and klamathweed. There are approximately 1600 miles of county-maintained roads in Madera County.

Action 9.1

All county roads will be surveyed, and yellow starthistle and klamathweed will be mapped using GPS and GIS. The survey and mapping will be done by a seasonal county staff member.

Performance Evaluation 9.1:

A computerized GIS map will be produced showing locations and approximate size of all roadside infestations of yellow starthistle and klamathweed in the county.

Tasks for Action 9.1. Inventory and mapping along county roads in Madera County

TASK	DATE	COST	IN KIND - COST
Task 1 Purchase GPS unit	02/01/01 – 03/31/01	\$450	
Task 2 Hire one seasonal staff	04/02/01		Madera County Staff (Ag Inspector III - 20 hours @ \$28/hour = \$560
Task 3 Field Survey using GPS unit	04/04/01 – 06/30/01	480 hours @ 8.47/hour = \$4,065.60 1200 miles @ .37/mile = \$444.00	
Task 4 Downloading and mapping of data	04/05/01 – 06/30/01	TOTAL: \$4,509.60	
Task 5 Field survey using GPS unit	07/01/01 – 8/31/01	480 hours @ 8.47/hour = \$4,065.60 1200 miles @ .37/mile = \$444.00	
Task 6 Downloading and mapping of data	04/05/01 – 06/30/01	TOTAL: \$4,509.60	
TOTAL:		\$9,469.20	\$ 560.00

FRESNO COUNTY

PROJECT 10.0. Inventory and mapping of yellow starthistle and other weeds along county roads in Fresno County.

Roadside infestations of YST and other weed species can spread into private and public lands causing economic and cultural hardship. Roadside YST populations are a seed source for adjacent properties. Control of YST along roadsides is therefore critical especially in foothill areas near national forests and parks. There are several methods for controlling YST including: burning, mechanical removal (mowing, weed-whacking), biological control, and herbicides. Burning along county roads is not an option. Mowing is an option in certain areas, but not in the foothills where terrain precludes the use of mowers. Biological control of YST is currently of limited value. There is a need for an up-to-date map of yellow starthistle along all county roads in Fresno County. Fresno County will focus on mapping in 2001, in order to plan control projects beginning in 2002. The YST map will be compared with locations of rare and endangered plants and animals, and the methods of control for 2002 and beyond will be selected using this information, along with information on proximity to water (riparian areas, water supplies).

Staff of the Fresno County Department of Agriculture currently perform roadside weed control in eastern Fresno county in the Prather-Auberry-Tollhouse and Dunlap-Squaw Valley areas. Also, staff perform

roadside weed control in western Fresno County in Parkfield, Coalinga, Los Gatos Canyon, Derrick Road, Panoche Hills, Shields Avenue, and Mercy Hot Springs areas.

Objective 10.0: Fresno County Department of Agriculture conduct roadside surveys for YST and other high-priority noxious weeds, and map infestations with GPS. The project area will include all county-maintained roads and community service areas (CSA) in the county. Areas initially targeted for weed control include the Prather-Auberry-Tollhouse and Dunlap-Squaw Valley areas and the areas of Parkfield, Coalinga, Los Gatos Canyon, Derrick Road, Panoche Hills, Shields Avenue, and Mercy Hot Springs.

Action 10.1: Staff of Fresno County Department of Agriculture will conduct the surveying and mapping.

Evaluation 10.1: A computerized GIS map of the areas surveyed will be created, displaying YST infestations along county roadsides. Other high-priority noxious weeds will also be displayed, and areas surveyed with negative results will be shown on the map.

Tasks for Action 10.1. Inventory and mapping of yellow starthistle along county roads in Fresno County

TASK	DATE	COST	IN-KIND COST
Task 1 Hire 2 seasonal staff	04/16/01	FY 00/01 \$8,640 (864 hours @ \$10/hour)	6,500 commute miles @ .19/mile = \$1,234 Vehicle usage rate @2.93/hour for 520 hours = \$1,523.60 Indirect costs (15% of \$11,200) = \$1,680.00
Task 2 Train 2 seasonal staff	04/16/01		
Task 3 Field survey with GPS	04/17/01 – 06/30/01		
Task 4 Office downloading for GIS map	By 06/30/01		
Task 5 Field survey with GPS	07/01/01 – 07/24/01	FY 01/02 \$ 2,560 (256 hours @ 10/hour)	
Task 6 Office downloading for GIS map	07/01/01 – 07/24/01		
Total		\$11,200	\$4,437.60

IV. Budget .

MARIPOSA COUNTY

I. Control. PROJECT 1: Integrated weed management of yellow starthistle (*Centaurea solstitialis*) in Mariposa County

Objective 1. Yellow Starthistle control on private land in Mariposa County

		FY 00/01	FY 01/02	IN-KIND COST
Task for Action 1.1	Date	Cost	Cost	

Task 1 Train Contract Personnel	03/01/01 – 03/31/01			UCCE Farm Advisor including overhead and vehicle 40 hours = \$2000 (37.50/hr plus benefits)
Task 2 CE staff will conduct landowner outreach.	03/15/01 – 4/15/01	\$800 (80 hours @ \$10/hr) \$300 (500 miles) TOTAL: \$1,100		
Task 3 Contract staff will conduct pre-treatment survey using density counts and photo sites.	3/15/01 – 4/15/01	\$300 mileage (500 miles) \$800 contractors time (80 hours @\$10/hr) TOTAL: \$1,100		
Task 4a Purchase chemical	3/15/01 – 4/30/01	Spray contractor purchases 20 gallons of Transline at \$3,000. WMA share = \$1,500		Landowners' share \$1,500
Task 4b Contractors will treat selected sites.	04/01/01 – 06/30/01	Spray approximately 200 acres @ \$100/sprayed acre (\$50.00/sprayed acres paid by WMA). WMA share: \$10,000		Landowners' share \$10,000
Task 5 Contract staff will survey treated areas following treatment at 6 months and 1 year (2002).	10/01/01 – 10/15/01		\$800 (80 hours @ \$10/hr) \$300 (500 miles) TOTAL: \$1,100	
Total		\$13,700	\$1,100	\$13,500
		FY 00/01	FY 01/02	IN-KIND COST
Tasks for Action 1.2	Date	Cost	Cost	
(Tasks 1-3 done under Action 1.1)				
Task 4 Conduct hand-pulling, weed-whacking or mowing	When plants are at 2-5% bloom, probably 06/01/01 – 06/30/01			CDF crew (15 people) @\$450/day (actual in-kind will be reported in annual report)
Task 5 Conduct follow-up treatment to get resprouts or newly germinated plants	July 2001			UC Cooperative Extension agent's time and mileage (actual in-kind will be reported in annual report)
Task 6 Monitor (same as Action 1.1, Task 5)				

Total for 1.2		None for 1740 funds		At least \$5,000
Project Total		\$13,700	\$1,100	\$18,500

I. Control. Project 2 (Iberian starthistle survey and eradication in Piney Hill area of Mariposa County)

		FY 00/01	FY 01/02	IN-KIND COST
Task for Action 2.1	Date	Cost	Cost	
Task 1 Hire and train temporary staff	04/01/01 – 04/03/01			UCCE Farm Advisor including overhead and vehicle 40 hours = \$2000 (37.50/hr plus benefits) CDFA Biologist 20 hours = \$1,000
Task 2 Contract staff conduct property owner research	04/04/01 – 04/06/01	\$240 (24 hours @ \$10/hr)		
Task 3 Contact property owners	04/09/01 – 04/13/01	\$400 (40 hours @ \$10/hour \$300 mileage Total = \$700.00		
Task 4 Survey and map project area	04/14/01 – 4/18/01	\$400 (40 hours @ \$10/hour \$300 mileage Total = \$700.00		
Task 5 Contractor purchases chemicals	04/19/01	1 gal Transline, 1 gal glyphosate, plus blue dye and surfactant TOTAL: \$450.		
Task 6 Contract with a Pest Control Operator to treat 3 times in April and May	4/19/01 – 5/31/01	\$70/hour for 2 persons, equipment, and materials X 86 hours for 3 applications (3 miles of terrain on foot = 0.5 miles per day) TOTAL: \$6,020.		
Task 7 CDFA staff will survey treated areas following treatment at 6 months and 1 year (2002).	October 2001, April 2002			CDFA Biologist 10 hours @ \$500.00
Total		\$8,110		\$3,500

MADERA COUNTY

I. Control. Project 3. Control of yellow starthistle along Madera County Roads

		FY 00/01	FY 01/02	IN-KIND COST
Task for Action 3.1	Date	Cost	Cost	
Task 1 Determine area to be sprayed	03/15/01 – 04/01/01	(see mapping and inventory, Section III)		
Task 2 Purchase chemical	04/01/01/ - 04/10/01	1536 oz of Transline herbicide @2.49/oz = \$3,824.64 2 gallons of spreader @ 10.00/gal = \$20.00 TOTAL: \$3,844.64		
Task 3 Rent a trailer-mounted sprayer for 2 months	04/10/01	\$1,200		
Task 4 Spray roadside infestations of yellow starthistle				Road Dept. Spray Crew 220 @ 15.00/hour =
Task 5 Contractor purchases chemicals				Madera County Staff (Ag Inspector III - 40 hours @ \$28/hour = \$1,120.00
Task 6				Madera County Staff (Ag Inspector III - 40 hours @ \$28/hour = \$1,120.00
Total		\$5,045		\$4,980

I. Control. PROJECT 4. Integrated Weed Management of Arundo in the San Joaquin River drainage (Millerton Lake area), Madera County

		FY 00/01	FY 01/02	IN-KIND COST
Task for Action 4.1	Date	Cost	Cost	

Task 1 Hire and train seasonal employee	04/01/01 – 05/15/01	240 hours seasonal staff @ \$12/hour = \$2,880		GPS unit = \$4,000.00 Staff time: 40 hours at \$35.00/hour = \$1,400
Task 2 Enter information into computer, produce map for use in control	5/15/01	40 hours seasonal staff @ 12.00/hour = \$480.00		Cooperative effort with Bureau of Reclamation GIS specialist 20 hours @ \$35.00/hour = \$700.00 (plus use of computer system)
Task 3 Conduct pre-treatment monitoring	Begin 5/16/01	20 hours seasonal staff @ 12.00 = \$240.00		
Task 4 Contract for removal of Arundo thickets and subsequent spraying with glyphosate 4-6 weeks later	5/16/01 – 6/30/01	\$1,400		
Task 5 Conduct 6 month post-treatment monitoring	By 12/30/01			20 hours time for an Environmental Services intern @ 15.00/hour = \$300.00
Task 6 Conduct 12 month post-treatment monitoring	6/30/02			20 hours time for an Environmental Services intern @ 15.00/hour = \$300.00
Total		\$5,000		\$6,700

FRESNO COUNTY

1. Control. PROJECT 5. Integrated Weed Management of yellow starthistle and Italian thistle in the Prather-Auberry-Tollhouse area of eastern Fresno County

		FY 00/01	FY 01/02	IN-KIND COST
Task for Action 5.1	Date	Cost	Cost	
Task 1 Conduct research on land ownership, contact landowners	3/01/01 – 3/15/01			Will add up to more than \$6,000 once time spent by RCD, SCE, and USFS personnel, vehicle usage, and mileage. All the preparatory work and data management will be in-kind.
Task 2 Survey and map weeds to determine where to spray	4/01/01 – 05/15/01			
Task 3 Conduct pre-treatment monitoring	Just prior to treatment			
Task 4 Secure spray contractor	By 05/01/01	Contractor approximately 60 acres @ \$100/acre = \$6,000		
Task 5 Spray yellow starthistle	<i>Optimal spray dates (before 6/30/01)</i>			
Task 6 Follow up control and post-treatment monitoring	By 12/31/2001			
Total		\$6,000		\$6,000 +

1. Control. PROJECT 6. Integrated Weed Management of rush skeletonweed and purple starthistle in Fresno County

		FY 00/01	FY 01/02	IN-KIND COST
Task for Action 6.1	Date	Cost	Cost	

Task 1 Hire 2 seasonal staff	04/02/01			FY 00/01 Staff hours – Ag Standards/Specialist III (based on 10 days/month) 240 hours X \$25.30/hour = \$6,072.00
Task 2 Train 2 seasonal staff	04/02/01 – 04/03/01			
Task 3 Survey known infestation area with GPS	04/03/01 – 05/01/01	Seasonal Ag Aide (32 days X 16 hours) 512 hours @ \$10/hour (wages include \$9.17 salary and \$0.83 benefits) = \$5,120.00		Ag III Vehicle Usage - \$2.93/hour X 240 hours = \$703.20
Task 4 Survey project area with GPS	05/01/01 – 6/30/01 and 07/01/01 – 8/31/01			Ag seasonal 240 hours X \$10.00/hour = \$2,400
Task 5 Survey and evaluate treated sites	05/01/01 – 6/30/01 and 07/01/01 – 8/31/01		Seasonal Ag Aide (36 days X 16 hours) 576 hours @ \$10/hour (wages include \$9.17 salary and \$0.83 benefits) = \$5,760.00	Seasonal Vehicle Usage 240 hours X \$2.93 = \$703.20
Task 6 Compile data and prepare report	By 9/30/01			6,500 Vehicle miles X \$0.19 mile = 1,235 FY 01-02 In-kind will be shown in end-of year report
Total		\$5,120	\$5,760	\$11,113 (FY 00/01 only, 01/ 02 will be shown in annual report)
		FY 00/01	FY 01/02	IN-KIND COST
Tasks for Action 6.1A	Date	Cost	Cost	See Action 6.1 above
Task 1 Purchase chemicals	04/02/01	\$36.00 Roundup-Pro 1 gal \$160.00 Transline 64 oz (\$2.49/oz) \$45.44 Blue dye 32 oz (\$1.42/oz) \$9.16 spreader 1 gal (\$9.16/gal) = \$250.60		
Task 2 Treat infested sites	04/16/01 – 6/30/01	64 X \$10/hour \$640.00	64 X \$10/hour \$640.00	
Task 3 Evaluate and document treatments	05/01/01 – 06/30/01	64 X \$10/hour \$640.00	64 X \$10/hour \$640.00	
Total		\$1,531	\$1,280	
Project Total		\$6,651	\$7,040	

Tasks for Action 6.2. Integrated weed management of purple starthistle in Fresno County

		FY 00/01	FY 01/02	IN-KIND COST
Task for Action 6.2	Date	Cost	Cost	
Task 1 Survey known infestation sites, treat and hand pull as needed	05/14/01 – 5/15/01	400 hours of seasonal ag aide X \$10.00/hour = \$4,000		Commute miles - \$0.19/mile X 480 miles = \$91.20
Task 2 Survey entire project area with GPS, treat and hand pull as needed	05/14/01 – 6/15/01			Vehicle Use: 200 hours X \$2.93/hour = \$586.00
Task 3 Office GPS downloading and mapping	05/14/01 – 6/15/01			Indirect costs: 15% of 4,000 = \$600.00
Total			\$4,000.00	\$1,277.00

II. Education

Education. Project 7. Education and Awareness Program

Tasks for Action 7.1	Date	In Kind Cost
Task 1: Provide brochures to CDF (Mariposa, Madera, Merced and Fresno/Kings Ranger Units)	March 2001	\$7,500
Task 2: CDF fire personnel make landowner contacts during "LE-38" inspections	Spring and Summer	
Task 3: Record number of brochures distributed and number of new weed infestations detected as a result	Summer and Fall 2001	
Total		\$7,500

Tasks for Action 7.2	Date	Cost – IN KIND
Task 1: Choose project coordinator for each county	03/14/01	\$1,000
Task 3: Choose dates, projects to display, and speakers	03/14/01	
Task 4: Make signs, schedule vehicles, advertise	04/30/01	\$2,000
Task 5: Hold event #1	May	\$1,000
Task 6: Hold event #2	June	\$1,000
Task 7: Hold event #3	July	\$1,000
Task 7: Develop report	10/01/01	\$ 600.
Total		\$6,600

Tasks for Action 7.3	Date	Cost
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Task 1: Send updated information to CDFA	Monthly	In kind
Total		\$ 1,000 In kind

III. Mapping and Inventory

MARIPOSA COUNTY

PROJECT 8: Noxious weed mapping in Mariposa County

		FY 00/01	FY 01/02	IN-KIND COST
Task for Action 9.1	Date	Cost	Cost	
Task 1: Advertise for mapping contractor in local newspaper	04/01/01			\$150 (UCCE)
Task 2: Conduct interviews and select person	04/15/01			\$400 (UCCE)
Task 3: Conduct road survey of highways 49, 132, and 140, and county roads, approx. 750 miles	06/01/01 – 06/30/01 and 07/01/01 - 08/01/01	– \$1,600.00 (160 hours @ \$10/hour) \$225.00 (mileage for 375 miles) TOTAL: \$1,825	\$800.00 (80 hours @ \$10/hour) \$225.00 (mileage for 375 miles) TOTAL: \$1,025	
Task 4: Download data into computer and print maps, mount on foam board			\$500 (3 maps each for each weed species plus 3 composite maps)	\$200 (UCCE)
Total		\$1,825	\$1,525	<i>At least \$750.00 (actual amount spent will be provided in the annual report)</i>

MADERA COUNTY

PROJECT 9. Inventory and mapping of yellow starthistle, klamathweed, and other weeds along county roads in Madera County

		FY 00/01	FY 01/02	IN-KIND COST
Task for Action 9.1	Date	Cost	Cost	
Task 1 Purchase GPS unit	02/01/01 – 03/31/01	\$450		
Task 2 Hire one seasonal staff	04/02/01	480 hours @ 8.47/hour = \$4,065.60	480 hours @ 8.47/hour = \$4,065.60	Madera County Staff (Ag Inspector III - 20 hours @ \$28/hour = \$560
Task 3 Field Survey using GPS unit	04/04/01 – 06/30/01 and 07/01/01 – 8/31/01	1200 miles @ .37/mile = \$444.00 TOTAL: \$4,509.60	1200 miles @ .37/mile = \$444.00 TOTAL: \$4,509.60	

Task 4 Downloading and mapping of data				
Total		\$4,960	\$4,510	\$560

FRESNO COUNTY

PROJECT 10. Inventory and mapping of yellow starthistle and other weeds along county roads in Fresno County.

		FY 00/01	FY 01/02	IN-KIND COST
Task for Action 10.1	Date	Cost	Cost	
Task 1 Hire 2 seasonal staff	04/16/01			6,500 commute miles @ .19/mile = \$1,234
Task 2 Train 2 seasonal staff	04/16/01			Vehicle usage rate @2.93/hour for 520 hours = \$1,523.60
Task 3 Field survey with GPS	04/17/01– 06/30/01 and 07/01/01 – 0724/01	\$8,640 (864 hours @ \$10/hour)	\$ 2,560 (256 hours @ 10/hour)	
Task 4 Office downloading for GIS map				Indirect costs (15% of \$11,200) = \$1,680.00
Total		\$8,640	\$2,560	\$4,437.60

V. SUMMARIES INCLUDING OVERHEAD FEE FOR AGRICULTURAL COMMISSIONER

MARIPOSA COUNTY SUMMARY OF SB 1740 FUNDS REQUESTED
Mariposa County will invoice monthly, beginning May 1, 2001

	FY 00/01	FY 01/02	TOTAL
Yellow starthistle control	\$13,700	\$1,100	\$14,800
Iberian starthistle Control	\$8,110	--	\$8,110
Mapping and Inventory	\$1,825	\$1,525	\$3,350
Overhead Fee for Agricultural Commissioner			\$2,900
GRAND TOTAL FOR MARIPOSA COUNTY			\$29,160

MADERA COUNTY SUMMARY OF SB 1740 FUNDS REQUESTED***Madera County will invoice quarterly, beginning April 1, 2001***

	FY 00/01	FY 01/02	TOTAL
Yellow starthistle Control	\$5,045	--	\$5,045
Arundo Control	\$5,000	--	\$5,000
Mapping	\$4,960	\$4,510	\$9,470
Overhead Fee for Agricultural Commissioner	--	--	\$2,170
GRAND TOTAL FOR MADERA COUNTY			\$21,685

FRESNO COUNTY SUMMARY OF SB 1740 FUNDS REQUESTED***Fresno County will invoice quarterly, beginning May 1, 2001***

	FY 00/01	FY 01/02	TOTAL
Yellow starthistle Control – PAT group	\$6,000	--	\$6,000
Rush skeletonweed and Purple starthistle mapping and control	\$10,651	\$7,040	\$17,691
Mapping and inventory	\$8,640	\$2,560	\$11,200
Overhead Fee for Agricultural Commissioner	--	--	\$3,907
GRAND TOTAL FOR FRESNO COUNTY			\$38,798

OVERALL GRAND TOTAL:

Mariposa County	\$29,160
Madera County	\$21,685
Fresno County	\$38,798
	<u>\$89,643</u>